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Biennial Report, 1930-1932

Pennsylvania Department of Agriculture

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GENERAL
BULLETIN
No. 514

JOHN A. McSPARRAN, *Secretary of Agriculture*
W. S. HAGAR, *Deputy Secretary*

Biennial Report, 1930-1932

The Department of Agriculture is a service agency which seeks to prevent or remove obstacles for economical production and efficient marketing of farm products, to supply essential information on the supply of and demand for farm products in this and competing States, to promote fair business dealings, and to prevent adulteration and misrepresentation of food products in the interest of public health and welfare.

Briefly stated, the Department creates annually a million-and-a third dollars in revenue, expends a million dollars in indemnity and damage claims, and makes every effort to protect a billion-and-a-half-dollar industry from the onslaught of transmissible animal diseases, plant pests, and many unscrupulous business practices. A complete financial statement will be found on pages 30 to 32.

Approximately fifty cents out of every dollar appropriated to the Department goes as indemnity or State-aid to farming people and local fair associations. The revenue created through the enforcement of laws and the collection of fees, inspection charges, and fines equals the general expense and salary payments (indemnity and State-aid not included) of the Department.

Many Agencies Cooperate

While numerous details of the work of the Department are discussed in the following pages, the Department wishes to make clear that many agencies have cooperated and are constantly contributing to the success of the work of the Department and to the protection of agriculture in Pennsylvania generally. These agencies include, the Pennsylvania State College and its Extension Service, other Departments of the State Government, farm and allied organizations, and local governmental officials.

Egg Laying Contest Sets High Record

On May 20, 1931, Governor Pinchot approved Act 98 which provided an appropriation of $85,000 and authorized the Department to construct the necessary buildings and conduct an egg laying contest. A tract of land already belonging to the Commonwealth and located only a short distance beyond the Farm Show Building on Cameron Street in Harrisburg, was selected as the proper site. Plans for buildings embodying the very latest facilities were drafted and construction work was completed in time to start the contest November 1, 1931, with 79 pens entered from nine States. With a production percentage exceeding 71 during the mid-winter months, the contest set an unusually high record, being six points higher than the Florida contest during February. The rate of production during the first year of the competition was: November, 57.77; December, 69.66; January, 71.59; February, 74.04; March, 71.29; April, 69.50; May, 68.91; June, 65.99; July, 61.87; August, 55.48; September, 48.44; Average, 62.85.

BUREAU OF ANIMAL INDUSTRY

T. E. Munce, *Director*

The essential nature of the livestock industry in the Commonwealth makes imperative the prevention and control of transmissible diseases common to farm animals. This particular responsibility in the Department of Agriculture is charged to the Bureau of Animal Industry which has made an outstanding reputation throughout America and many foreign countries for its progressive steps in regulation activities relating to many of the most serious and destructive diseases encountered by Pennsylvania herdsmen and flock owners. A plan is now well under way for the prevention and control of Bang disease. There has been no serious outbreak of hog cholera in the Commonwealth for several years. The risks connected with bovine tuberculosis have been eliminated in more than 89 per cent of the cattle in the State. The number of chickens blood-tested for pullorum disease has increased twenty-fold since 1925.

Bovine Tuberculosis Eradication

The first tuberculin test for the control of bovine tuberculosis to be made in America was performed in Pennsylvania in March, 1892. On June 1, 1932, all the cattle in 47 counties had been completely tested and all but three had been Modified Accredited, meaning that the disease has been reduced to less than one-half of one per cent. Over 89 per cent of the total cattle population in the Commonwealth are under TB supervision.

Over 1,430,800 TB tests were applied during the two-year period from January 1, 1930 to December 31, 1931. Since the establishment of the State Livestock Sanitary Board in 1896, 229,854 TB reactors have been removed from herds of cattle most of which represent dairy herds supplying whole milk to consumers in Pennsylvania and nearby States.

Table 1. Progress of Bovine Tuberculosis Eradication (All Tests) 1926-1931

Year	Herds Tested	Cattle Tested	Reactors
1926	47,434	373,931	20,933
1927	69,477	614,352	27,760
1928	74,526	670,853	26,865
1929	77,938	676,349	21,704
1930	89,897	761,529	26,057
1931	74,017	730,101	25,491

A number of States including Wisconsin, Ohio, Maine, North Carolina, Michigan and Indiana are now entirely free of bovine tuberculosis. At the present rate of testing in Pennsylvania, a similar goal should be reached here in the near future.

Millions Paid as Indemnity

More than $10,000,000 has been paid as indemnity for tubercular cattle in Pennsylvania during the past 10 years. Of this amount, twothirds has come from the State and one-third from the Federal Government. Since 1926, the indemnity appropriated by the Pennsylvania General Assembly has averaged approximately $1,000,000 a year.

Table 2. Federal and State Indemnity Paid for Tubercular Cattle in Pennsylvania

Year	State Indemnity	Federal Indemnity	Total Indemnity
1926	1,222,738.97	315,122.68	1,537,861.65
1927	905,588.69	607,612.64	1,513,201.33
1928	1,210,487.88	693,473.82	1,903,961.70
1929	768,146.22	555,574.99	1,323,721.21
1930	1,227,512.13	885,147.82	2,112,659.95
1931	965,803.04 (a)	666,589.95	1,631,392.99

(a) $122,361.33 additional claims awaiting payment.

Meat Hygiene

The State is ever on guard to see that Pennsylvania Consumers are sold wholesome meat and meat products. This meat hygiene work includes, first and foremost, anti-mortem and post-mortem inspections by trained veterinarians, and second, the investigation and prosecution of violators of State Meat Hygiene Laws, and the assistance in establishing local meat inspection services.

This work has increased greatly during recent years. The number of carcasses inspected increased from 58,295 in 1927 to 361,211 in 1931, the number of pounds of meat from 2,054,208 to 10,903,926, the number of organs from 130,848 to 1,074,711, and the number of establishments examined from 5,179 to 11,319.

Table 3. Meat and Carcass Inspection

Year	Estab's. Examined	Carc's. Exam'd.		Meats Exam'd.	
		Passed	Cond.	Passed lbs.	Cond. lbs.
1926	3,892	59,879	2,316	941.023	5.667
1927	5,179	57,144	1,151	2,051,833	2 375
1928	6,630	69,316	1,154	2,824,507	1.364
1929	8,539	224,879	1,146	7,261,031	2 879
1930	7,198	372,054	2,064	43,404,598	14.015
1931	11,319	358,527	2,684	10,894,122	19.804

Bang Disease Control

The movement in Pennsylvania for the control of Bang disease, which began in 1921 after years of observation and scientific study, was the first systematic effort for the control and eradication of this disease in herds of cattle to be made in America. This plan is voluntary with the herd owner and is based upon repeated blood testing, the elimination of reactors and sanitation.

Up to January 1, 1932, a total of 5,337 herds in 64 counties had been tested of which 1,272 were directly signed up under the plan.

The number of Bang disease-free certificates issued up to that date was 641. Recent progress in this work is indicated by the fact that only seven certificates had been issued up to December, 1926. The number of animals tested has increased from 5.950 in 1926 to 68,473 in 1931 and in this six-year period, 17.453 positive cases of the disease have been ascertained by blood testing.

Beginning June 1, 1932, Pennsylvania took another forward step in its program of protecting her healthy herds and flocks of livestock from the danger of infection from outside sources. Regulations were put into effect to keep out of the Commonwealth, cattle infected with Bang disease in other states.

Hog Cholera Control

During 1930, 88,699 hogs were vaccinated as a prevention of hog cholera. The number increased to 96.300 in 1931. In other words, during the two-year period, almost 200,000 hogs were vaccinated and of this number only 166, or an extremely small fraction of one per cent, died after the treatment. During the two-year period, 2,771 cases of hog cholera were reported and in the control of these cases, 479 premises were quarantined. It has been fully demonstrated that where proper precautions are taken, the risks from hog cholera can be practically eliminated as a menace to the swine industry in Pennsylvania.

Table 4. Summary of Hog Cholera Activity, 1926-1931

Year	Cases	Animals Examined	Deaths before Vaccination	Total Vaccinated	Deaths after Vaccination	Premises Quarantined
1926	377	6,511	286	6.116	530	377
1927	475	8,200	148	7.756	583	475
1928	319	5,149	100	4.592	390	319
1929	1.166	90,914	110	90,400	271	176
1930	1,040	89,283	120	88.699	109	112
1931	1,731	97,603	121	96.300	57	367

A marked increase in activities since 1928, is indicated. This increase has been due to the establishment of a better understanding between the swine owner, the local veterinary practitioner, and the Bureau of Animal Industry in the matter of reporting all cases of hog cholera to the Bureau.

Every possible precaution is taken in Pennsylvania to make sure that the serum used in the control of hog cholera is a pure and potent product, and is made available to farmers at the lowest possible cost. A contract was let early in 1932 in which most favorable prices were secured. It represents a saving of over $8,500 to the swine industry when compared to the previous contract.

Transmissible Diseases

Transmissible disease prevention service is rendered livestock owners. The fact than anthrax, blackleg and hemorrhagic septicemia may be prevented by vaccination, has been stressed in every possible way. Human lives are also subject to anthrax and glanders which make the immediate control of such diseases extremely important. Owners of livestock living on premises on which outbreaks of anthrax, blackleg and hemorrhagic septicemia have occurred are warned annually about vaccinating their animals before they are turned on pasture.

Poultry Diseases

With poultry on more than nine out of every ten farms, the problem of checking the heavy losses experienced from poultry diseases has become one of common concern. Pennsylvania leads all States in the value of poultry products and is at present making every effort to build up a remunerative trade by the production and marketing of well-graded, high quality products. Effective disease control is one of the foundation stones in this program. Well managed and healthy flocks are producing a nominal profit in the present period of depression. This undoubtedly, explains the reason for the unusual demand being experienced for assistance in building up diseased-free flocks.

One of the projects in which much attention has been centered in the past seven years is the accredited hatchery plan inaugurated by the State in 1925. The Bureau of Markets and the Bureau of Animal Industry cooperate in the operation of this plan. It provides in part that all the birds in flocks signed up under the plan for accreditation must have a blood test for pullorum disease, a most serious disease with chicks which is known to cause heavy mortality. This disease is transmitted from the laying hen to the chick through the egg. Therefore, testing the blood of the hen and eliminating those carrying the disease, controls losses which would otherwise occur. The growth of this work is shown by the following records, giving the number of birds blood tested since 1925: 1925, 15,177; 1926, 43,630; 1927, 61,442; 1928, 100,340; 1929, 142,200; 1930, 238,229; and 1931, 309,880. It will be observed that a twenty-fold increase in this activity has been experienced during the seven-year period.

The demand for control measures to be applied to other poultry diseases has increased in almost the same proportion during the last few years. Fowl pox has appeared in many different sections of the State. Great loss has been experienced and the demand for control of the disease has increased in proportion to the number of infected flocks.

State Institution Herds Kept Free of Disease

There are 16 State institutions which are maintained wholly by State appropriation. These institutions have extensive herds and flocks. The Bureau is charged with the prevention, control and eradication of transmissible diseases in these herds and flocks. All the cattle have been tuberculin tested and are known to be free of tuberculosis. Cattle have also been tested for Bang disease and every precaution is taken against other diseases such as hog cholera.

Dog Law Effectively Enforced

The rigid enforcement of the Pennsylvania Dog Law by the Bureau resulted in 503,833 dog licenses being issued in 1931 compared to 294,-

461 in 1921 when the enforcement was in the hands of county officials exclusively. The number of licenses issued in 1930 was 507,641.

The present Dog Law became effective January 15, 1922, and each year up to 1929 showed a pronounced increase in the number of licenses issued. The Pennsylvania Dog Law is a good revenue producer for the Commonwealth, as well as a protection to the public, to property, livestock and poultry. During the ten years which it has been under the bureau's supervision, more than $6,000,000 has been brought into the State Treasury and over 20,000 damage claims have been satisfactorily settled, calling for payment of over $700,000 to owners of livestock and poultry for damages by dogs. Other interesting facts are: (1) Over 4,700,000 licenses were issued during this period. (2) Approximately 152,000 stray, uncontrolled dogs were killed, for which local police officers were paid $303,500. (3) 56,686 sheep were killed and injured; an average of 5,600 sheep annually compared with 21,000 in a recent year in an adjoining state where local enforcement is still in effect. (4) Over 67,600 prosecutions were made for violation of this law.

Table 5. Dog Law Enforcement Statistics, 1922-1931

Year	Number of Dogs Licensed	Dog Law Enforcement Revenue	Number of Damage Claims	Amount Paid for Damages
1922	347.847	$422,344.50	1,551	$50,889.57
1923	405,804	532.370.00	1,896	66,926.35
1924	469,833	607.285.50	1,895	71,826.09
1925	479.222	615,811.75	2,096	77,468.20
1926	498.821	649,811.00	2,243	84,671.40
1927	500.312	633,859.75	2,111	76,761.88
1928	489,614	643,200.00	1,941	71,626.57
1929	508,747	673,256.55	2.038	72,162.75
1930	507,641	657,612.65	2.323	70,263.90
1931	503,833	644,214.50	2,262	61,352.28

Control of Rabid Dogs

The work of the Bureau in the control of rabid dogs covered 384 cases of the disease in 1930 in which 282 persons and 1,795 animals were bitten. In the control of these cases, 1,048 premises and 1,851 animals were quarantined. Likewise, 627 animals were killed upon suspicion of having rabies. Corresponding figures for 1931 are: 235 cases reported with 157 persons and 2,179 animals bitten, 943 premises and 2,018 dogs quarantined and 482 dogs killed as suspects.

The Bureau prevents, controls and eradicates rabies by performing the following services:

(1) By placing individual quarantines on all exposed dogs or other animals; (2) By establishing a general quarantine on municipalities, townships, and counties when the disease becomes widespread and conditions warrant the same; (3) By cooperation with veterinary practitioners, livestock owners, municipal authorities, civic organizations and dog law enforcement officials; (4) By conducting laboratory examination on the brain of animals which have died or been destroyed, which were suspected of having been affected with rabies; (5) By reporting results of laboratory findings by telegram to all interested parties; (6) By thorough investigation of the outbreak, tracing sources of infection and number of animals or persons exposed.

Stallion Enrollment

The Bureau is charged with the enforcement of the Stallion Enrollment Law which includes the inspection as to breed, soundness and confirmation of registered stallions and jacks. The number of stallion licenses in 1931 totalled 284, the highest number since 1923. This is an increase of 55 over the 1930 figure but is only one-half the total registered in 1920.

Laboratory Work

During 1924 the laboratory of the Bureau, formerly located in Philadelphia, was transferred to Lower Allen Township, Cumberland County, in order to be more accessible to the central office and to render more prompt service through the local practicing veterinarians to the livestock and poultry owners of the State. The present arrangements and location provide adequate facilities for prompt service and an excellent, isolated area where livestock and poultry can be handled safely for research purposes.

During 1931 specimens from 74,951 cattle, 295 horses, 2,995 sheep, 187 swine, 1,425 dogs, 311,350 chickens, 506 turkeys and 537 other animals came to the laboratory for examination and tests. In case of examination of dog brains for rabies, this work becomes extremely important and a direct service in the saving of human lives.

The number of specimens examined in 1931 exceeded the 1930 total by 78,548 or an increase of 25 per cent. The growth of this laboratory service since 1926 is indicated by the following figures which give the total specimens examined by calendar years: 1926, 64,180; 1927, 95,379; 1928, 141,604; 1929, 199,956; 1930, 313,698; 1931, 392,246.

BUREAU OF FOODS AND CHEMISTRY

James W. Kellogg, *Director*

A persistent and painstaking fight against impure and mislabeled foods and dishonest business practices, has been waged in Pennsylvania for more than a quarter of a century. During this period, thousands of prosecutions have been successfully terminated in the courts against unscrupulous parties who perpetrated fraud and deception of the most dangerous consequences to both the physical and economic wellbeing of producers and consumers alike.

Each year witnesses improvement in the general quality of food products placed before the consumer and in the general standard of business practices, but each year also brings with it new schemes for getting around certain legal provisions, new attempts to disregard the law deliberately, and new problems arising from the more complicated present-day methods of food manufacturing and distribution and the resulting changes in viewpoints.

Pennsylvania's food laws were designed for the protection of the public health in preventing the sale of unwholesome foods and at the same time, preventing fraud and deception by adulteration and misbranding. The laws regulating the sale of such agricultural products as fertilizers, feeding stuffs, lime products, insecticides and fungicides and painting materials, were also designed to prevent fraud and deception as well as adulteration and misbranding. In addition to applying directly to the sale and labeling and preventing fraud and deception, several of these measures provide for the issuing of licenses and permits for which fees are collected, thus becoming revenue-producing in addition to regulatory measures. Table 6 gives the number of licenses and certificates issued since 1928 and the financial statement on pages 30 to 32 gives the receipts from the Bureau's work.

Table 6. Licenses and Certificates Issued, 1928-1931

Product	1928	1929	1930	1931
Oleomargarine	3,362	4,589	6,347	4,506
Feeding stuffs	1,326	1,316	1,433	1,374
Fertilizers	260	234	244	208
Lime products	107	98	104	100
Insecticides—fungicides	125	130	156	168
Milk permits	1,363	1,202	1,308	1,209
Milk testers	1,060	1,155	1,193	1,159
Milk Weighers—samplers	491	536	590	557
Cold storage	70	67	74	72
Egg opening	22	24	24	20
Carbonated beverages	883	877	865	846
Milk testers' certificates	212	216	177	172
Milk weighers' certificates	101	152	137	93
Total	9,382	10,602	12,652	10,484

New Legislation

The 1931 General Assembly amended the Egg Opening Law to better control the use and sale of so-called incubator reject eggs by requiring that all such eggs which had been subjected to incubation for a period of seven days or over, be labeled "Incubated Eggs," and further requiring that all bakery and other food products in which such eggs shall have been used, be labeled "Incubated Eggs Used."

The Fertilizer Law was also amended providing for simplification of guarantees by discontinuing the guarantee for ammonia and requiring simply guarantees for nitrogen, at the same time providing for even guarantees for nitrogen, available phosphoric acid, and water soluble potash, in mixed fertilizers.

Many Frauds and Misrepresentations Discovered

In order to prevent the unlawful sale of adulterated butter, especially in the Philadelphia district, 1,162 samples of butter were purchased, 240 representing so-called sweet butter, and of this number 147 were found to be adulterated with excess water and deficient in butterfat, quite a number of these sweet butters meeting the butterfat standard but carrying excess water, and prosecutions were immediately ordered against the dealers and the fines received totalled $5,100.

In an effort to control the sale of sausages, 905 samples of this food were purchased, 74 resulting in prosecutions for the use of either cereals or containing sulphites as a preservative. The amount of fines received in these cases totalled $5,500.

The unlawful sale of oleomargarine for pure creamery butter was discovered in Harrisburg and prompt action taken, which resulted in fines and costs being paid. The oleomargarine was artificially colored and the cartons labeled "Pure Creamery Butter." The shipments came from New York City and the U. S. Food and Drug Administration was promptly notified, whereupon, through their cooperation, the cases on hand in the Harrisburg warehouse were seized, prosecution brought by the national authorities against the offenders in New York City, which finally resulted in penitentiary sentences for the persons adjudged guilty before the Federal Court.

As a result of a campaign to prevent the unlawful sale of vinegar composed of acetic acid, apple products waste and poor quality cider vinegar, several prosecutions were instituted, resulting in payment of $600 in fines and costs.

Under the provisions of the amendment to the Ice Cream Law, making it unlawful for one manufacturer to use equipment belonging to another manufacturer, 17 prosecutions were instituted and successfully terminated in the Philadelphia district.

A truckload of stale eggs being offered for sale as fresh eggs was apprehended in the Wilkes-Barre district and prompt action prevented further unlawful sales.

In the Erie district it was discovered that cold storage turkeys, not marked as such, were being sold as fresh killed turkeys and as a result of the action taken to prevent this type of misrepresentation, the practice was discontinued and 17 turkeys which were unfit for food, were denatured with kerosene and destroyed.

In cooperation with the city health authorities of Wilkes-Barre, the unlawful storage of fish in a cold storage ware house was discovered and 138 boxes of decomposed fish, originally valued at $3,500, were conveyed to the city dumps and burned.

Table 7. Summary of Food Law Enforcement, 1927-1931

MILK	1927	1928	1929	1930	1931
Samples analyzed	2,637	1,920	1,929	1,519	1,511
Prosecutions	130	71	98	77	59
Per cent violations	4.9	3.7	5.0	5.0	3.9
CREAM					
Samples analyzed	599	509	541	487	530
Prosecutions	43	25	15	7	10
Per cent violations	7.2	4.9	2.7	1.4	1.9
ICE CREAM					
Samples analyzed	288	157	155	183	385
Prosecutions	28	3	6	28	31
Per cent volations	9.7	1.9	3.9	15.3	8.0
BUTTER					
Samples analyzed	133	171	194	417	1,162
Prosecutions	10	21	30	53	147
Per cent violations	7.5	12.2	1.5	1.2	12.6
OLEOMARGARINE					
Samples analyzed	24	25	32	24	43
Prosecutions	10	7	8	24	14
Per cent violations	41.7	28.0	25.0	100.0	32.5
ALL FOOD PRODUCTS					
Samples analyzed	8,715	6,965	7,901	10,618	11,322
Prosecutions	1,129	1,021	981	951	1,008
Per cent violations	13.0	14.7	12.4	8.9	8.9

In cooperation with the Federal authorities and city officials in the north central district, shipments of diseased meat originating in New York State were seized and condemned.

Special label revisions and change in methods of procedure as a result of examination of samples, resulted in correction of labels and preventing unlawful sales of misbranded tuna, catsup containing a thickener, adulterated honey, the sale of imitation ice cream containing practically no butterfat, revision of labeling of so-called Italian style vermouth, increasing the size of type on labels for certain products to show clearly the use of artificial colors and flavors, a revision of the labels by a large number of manufacturers for the sale of so-called malt syrup to show specifically that it was a non-diastatic product, namely one possessing no starch digestive value, and a correction of a number of labels of so-called misbranded health foods, as a result of special investigation in the Philadelphia district.

Of the large number of investigations made, some required special attention and included the following: The discovery in the western part of the State of a fraud in the sale of imitation maple syrup as pure maple syrup, resulting in a heavy fine and jail sentence for the offender and discontinuing of the practice; investigation of a few alleged poisoning cases requiring examination of samples of mushrooms and flour suspected of causing serious illness; a check-up on the use of bakeries of incubator reject eggs, notices being sent to egg-opening establishments as well as bakeries, warning against the use of inedible reject eggs.

Consumers Get High Quality Foods

During 1931 the food agents in their respective inspection districts selected 11,240 samples of general and special foods and 5,448 agricultural products, totalling 16,688, which were submitted to the food chemists and chemical laboratory for analyses. Of the total number of foods examined, 8.9 per cent resulted in prosecutions for violations of the several laws. This proportion is low and, no doubt, would have been much lower were it not for the fact that many of the cases resulted in special investigations of suspected violations. There were 1,045 food prosecutions terminated. These figures show that the general character of foods sold throughout the State are of high quality and remarkably free from adulteration and misbranding.

Table 7 gives comparisons of the 1931 activities with 1930 and preceding years.

Dishonest Milk Dealers Make Rebates

The three dairy experts assigned to milk plant inspection work were, insofar as possible, in close touch with the activities of these plants and made 1,048 inspections and investigations in 1931 and 1,293 in 1930. During 1931, they investigated 142 complaints, gave examinations in proficency to 215 testers and 110 weighers and samplers, check tested 3,904 composite samples and 417 fresh samples.

As a result of these activities in 1931 where failures to meet the requirements were concerned, 29 prosecutions were made resulting in fines totaling $1,082. Many of the plants where shortages were found made rebates amounting to $3,717.76. In 1930, a total of 39 prosecutions were ordered and fines amounted to $650 in addition to rebates to producers. The activities under the Milk Testing Law have been of direct financial benefit to the milk producers throughout the State.

Better Soft Drinks Sold

In carrying into effect the provisions of the bottling law, the non-alcoholic drinks law and the sanitary bottling act, four special agents supervised the sale of soft drinks at carnivals, county fairs, circuses and roadside booths, in addition to inspecting bottling plants.

Beverage licenses were issued during 1931 to 846 plants and in 1930 to 865 plants, and during 1931 the beverage agents made 4,484 inspections and investigations, obtained 524 samples, including caustic alkali solutions in bottle-washing machines and made 473 investigations of complaints.

There were 101 prosecutions instituted during 1931 for failure to meet the requirements which included misbranded bottled beverages, operating without permits, improper labeling of bulk drinks and deficient strength of caustic washing solutions and the fines obtained as a result of these actions amounted to $2,000.

The sanitary conditions of the bottling plants have shown improvement. On the whole, it may be reported that the work in connection with the enforcement of these beverage laws has been effective in protecting the public health.

Cold Storage Foods

Under the provisions of the Cold Storage Law which provides for the licensing of cold storage warehouses, limiting the storage of certain foods to a twelve-month period and requiring labeling as "Cold Storage Goods" when these foods are placed on sale, particular attention was given during the year to the method of labeling these foods, especially in the case of cold storage eggs. Conferences were held with representatives of the cold storage warehouses in an effort to prevent unlawful sales of eggs, whereupon an agreement was reached to stamp the crates and more securely fasten the tags. Licenses were issued to 72 warehouses in 1931 compared to 74 in 1930.

The average of the quarterly cold storage reports for 1931 shows the following average amounts of food were in storage: meats and game, 1,331,009 pounds; fish, 2,185,205 pounds; poultry, 4,147,360 pounds; eggs in shell, 11,330,583 dozen; eggs broken out of shell, 4,704,981 pounds; and butter, 3,308,868 pounds. Compared with the averages for 1930 there were in storage during 1931, approximately 220,000 pounds less meat and other game, 593,000 pounds less fish, 100,000 pounds more poultry, 1,845,000 less dozen eggs in shell, 225,000 pounds more eggs out of shell and 1,979,064 pounds less butter.

Agricultural Products

Table 8 summarizes the enforcement of laws regulating the sale of agricultural products including fertilizers, feeding stuffs, lime, paints, oils, turpentine, etc. It will be noted that in practically all classes, a downward trend in proportion of samples found deficient, is indicated. The only notable exception is in feeding stuffs where proportion has increased sharply, particularly in 1931.

Table 8. Summary of Enforcement of Laws Regulating Sale of Agricultural Products, 1927-1931

FERTILIZERS	1927	1928	1929	1930	1931
Samples analyzed	2153	2291	2359	2236	2160
Brands represented	705	688	731	728	709
Brands registered	1272	1232	1230	1221	1149
Samples deficient	407	264	235	284	281
Proportion deficient (%)	18.9	11.5	10.0	12.7	13.0
FEEDING STUFFS					
Samples analyzed	*1715	*1819	*1517	*1623	*1868
Brands represented	656	757	607	628	750
Brands registered	3712	4040	4083	4043	4180
Samples deficient	**68	**107	**95	**75	**164
Proportion deficient (%)	7.4	9.9	10.1	8.3	14.4
LIME PRODUCTS					
Samples analyzed	*197	*139	*108	*148	*170
Brands represented	54	50	51	51	59
Brands registered	184	183	191	187	185
Samples deficient	**47	**31	**28	**31	**36
Proportion deficient (%)	40.9	34.1	29.2	27.9	31.0
PAINTS, OILS, TURPENTINE, INSECTICIDES AND PUTTY					
Samples analyzed	*439	*380	407	*109	360
Samples adulterated	**7	**8	2	0	3
Proportion adulterated (%) ..	1.6	2.1	0.49	0	0.83

* Includes special sampes at $1.00 per sample.
** Official samples only.

BUREAU OF MARKETS

George A. Stuart, *Director*

The outstanding development in the work of the Bureau of Markets during the two-year period, 1930-1932, has been the increase in demand from different parts of the Commonwealth for the various services performed by the Bureau. Most marked has been the increase in the services dealing with standardization, particularly those relating to fruit and vegetable and poultry marketing. During the past two years, the inspection of fruits and vegetables for certification of grade increased 72 per cent over the period, 1928-1930, the inspection of cannery products increased 341 per cent over the previous biennium and the inspection of birds in poultry flocks and hatcheries increased 83 per cent. Producers and shippers who request such inspection, pay fees which cover the approximate cost.

Non-fee producing services of the Bureau have likewise increased. During the past two years, grades for green string beans were formulated and grades for eggs established, which necessitated an increase in grading supervision. Specifications for flour and feed to be made, in part, of Pennsylvania-grown wheat and to be used by State institutions, were worked out in collaboration with the Department of Property and Supplies, and it is expected that the home consumption of our wheat will thereby be increased. The Bureau, in cooperating with producers of fruits, vegetables, poultry products and honey, has adopted a State trademark for selling quality products, packed in conformity with official grades.

Market Reporting Made More Complete

Market reporting services are established in the five most important markets of the State (Philadelphia, Pittsburgh, Scranton, Wilkes-Barre, and Lancaster) on a daily basis but the services at Scranton and Wilkes-Barre are the only ones maintained entirely by this Bureau. The U. S. Department of Agriculture bears the major share of the expenses for the cooperative market news service at Philadelphia and Pittsburgh and shares in the expense at Lancaster. Market reporting at Scranton and Wilkes-Barre cover the fruit, vegetable, butter and egg market; at Lancaster it covers the livestock market; and at Philadelphia and Pittsburgh, the livestock, fruits, vegetables, dairy products and poultry products markets.

Approximately 90 newspapers in Pennsylvania and an equal number in adjoining states have carried the market reports of one or more of our branch offices during the past two years. In addition to this distribution, five radio broadcasting stations disseminate the reports each day.

Fruit and Vegetable Inspection

Demand for the inspection services of fruits and vegetables from growers, shippers, canners, receivers and common carriers, was greater in 1931 than during any other year in which this service has been available. The shipping-point certification work increased 34 per cent; inspection of raw cannery products 22 per cent and terminal inspections 40 per cent over the 1930 inspections.

Although the cannery inspection work showed a smaller percentage increase over 1930 than did that at either shipping points or terminals, this type of inspection promises to far exceed the other types of service. During the first five years of this State activity, inspections have increased from 235,000 to 53,453,839 pounds and at no cost to the State since this work is entirely self-supporting. Cannery products inspected during 1931 included apples, cherries, grapes, tomatoes and snap beans. Because of popular demand, U. S. Grades for corn were adopted during the winter of 1931 and it is expected that corn and lima beans will be added to the list of graded products during the coming year.

New commodities have been rapidly added to the list of inspected products and acreages purchased under inspection have increased. This system has proven so conducive to fair dealing between growers and canners that it has never been discontinued at a cannery where once begun.

Federal-State inspections at shipping-points, on the other hand, appear to have reached the peak of their usefulness, particularly if the trucking of Pennsylvania crops continues to increase in the future as it has in the past. Many of the truckers place partly or poorly graded products on the markets in this and in other states and the effect of dumping excess quantities of poorly graded produce on the markets is to depress prices and to narrow down the demand for the higher quality goods.

Table 9 shows the growth of the fruit and vegetable inspection services in the Commonwealth from 1925 through 1931. The inspections at terminals include only the cars inspected at receiving markets in central Pennsylvania. This work is carried on as a Federal service at Philadelphia and Pittsburgh with the State of Pennsylvania cooperating at Harrisburg, Wilkes-Barre and Scranton. Inspections in other cities of the State are handled, whenever possible, from one of the five cities in which offices are maintained.

Table 9. Fruit and Vegetable Inspection Services, 1927-1931

Year	*Shipping-Point*	*Terminal*	*Cannery Raw Products*
	Cars	Cars	Pounds
1927	1068	334	235,000
1928	1766	320	8,842,000
1929	2278	322	13,487,955
1930	2975	274	43,792,819
1931	3987	386	53,453,839

When considering the percentage of Pennsylvania inspected produce which was placed in the U. S. No. 1 or Fancy Grades, at shipping-point, peaches have shown the best quality, ranging from 84 to 92 per cent in the higher grades and white potatoes have shown the poorest quality, ranging from 34 to 69 per cent.

Many defects caused inspected apples, peaches and potatoes, to grade lower than U. S. No. 1 during the 1931-1932 season. Mechanical injuries were mentioned on 48 per cent of the apple certificates and on 21 and 20 per cent of the peach and potato certificates. Greater care in handling these crops through the harvesting and packing operations would eliminate much of this waste. Better cultural methods and more thorough spraying will help to eliminate many of the other defects such as scab, scale, worm injury, decay and stings.

Poultry Breed Improvement

Several poultry marketing projects have been established by the Bureau because of the importance of the poultry industry. One is the breed improvement work. Since its establishment in 1924, this work has steadily grown and has done much to standardize baby chicks and improve the size of eggs produced. The number of birds involved has increased from 3,100 in 1924, to 263,780 in 1931, and the work has spread from two to 37 counties.

Flocks and hatcheries are classified as Supervised, Certified, Record of Performance and Accredited. All breeding birds are individually examined for health, vigor, type and production, by a representative of the Bureau and placed in either of the first three classifications, depending on the qualifications exhibited. These same birds may be blood tested by the Bureau of Animal Industry for pullorum disease and after two consecutive clean tests, are rated as Accredited. Each flock and hatchery receives a certificate of classification for both the supervised and the Certified grades. An individual certificate is issued for each bird entered in Record of Performance which meets the minimum production requirements of 200 or more eggs for a pullet and 180 or more eggs for a hen, with average weights of 24 ounces per dozen.

Table 10 indicates the progress which has been made in the breed improvement work since 1926. The number of birds handled shows a steady increase, except for 1931, when the poultry industry was adversely affected by the business depression. Definite improvement is indicated in the lower per cent of birds reacting to the pullorum test and the increased number of accredited flocks. The Bureau's standardization program has improved the quality of baby chicks produced in Pennsylvania and has greatly reduced the misrepresentation of quality heretofore experienced.

Table 10. Breed Improvement Work Including Supervision, Certification Accreditation, and Record of Performance of Poultry Flocks

	1927	1928	1929	1930	1931
Birds handled	100,000	134,043	162,653	278,190	263,780
Birds approved	77,623	110,001	134.868	227,232	208,617
Birds banded	66,025	85,153	104,384	173,517	156,603
Birds culled	22,400	24.042	27,849	50,958	55,175
Per cent culled	22.40	18.00	17.10	18.32	20.90
Birds blood tested	51,920	79,883	108,202	164.228	309,880
Per cent reactors	9.60	5.33	6.03	6.70	5.30
Flocks under supervision	183	238	343	547	531
Hatcheries under supervision	42	50	51	72	86
Counties where work was done	28	29	32	40	37
Accredited flocks	3	3	7	8	20
Accredited hatcheries	1	1	5	5	10
R. O. P. birds	2,200	5,000	3,871	6,605	6,782
Flocks entered	18	17	11	18	18
Certificates issued	203	460	890	1,256	1,248

Egg Marketing

In order to meet the increasing demand for graded eggs, it was necessary to adopt standards for grading eggs in the summer of 1931. These standards were immediately put into effect at an auction market in Bucks County. They have been found to give reasonable satisfaction and have increased returns to producers. The success of grading at the auction has materially increased the demand for grading supervision. The grading of eggs at the first seven auction sales in Bucks County and for seven weeks at Shippensburg was done by employes of this Bureau. During that time, candlers were trained in grading and after demonstrating their efficiency, were licensed by the Department. They now carry on the grading work under the Bureau's supervision and their salaries are paid by the shippers.

Terminal Records on Wheat

The Bureau has continued to keep records on the grades assigned by grain inspectors to cars of wheat arriving on the terminal markets of

Philadelphia and Baltimore, which has been grown and shipped from points in Pennsylvania. This information helps to locate outbreaks of insect and smut infestation and aids in checking the trouble before it spreads over a wide area. Table 11 shows the percentage of cars which have been reduced in grade because of different factors.

Table 11. Grading Factors Causing Reduction in Price of Pennsylvania Wheat at Terminal Markets.[1] Crop Years 1927-1931

Year	Cars Shipped	Percentage of Cars Reduced in Grade Because of					
		Angoumois Moth	Excess Moisture	Garlic	Cockle	Weight per Bushel	Smut
		P. ct.	P. ct.	P. ct.	P. ct.	P. ct.	P. ct.
1927	992	6.5	72.4	35.5	.6	20.0	16.4
1928	338	15.5	75.0	83.6	.5	20.0	12.0
1929	747	30.3	4.4	66.4	.5	49.4	3.3
1930	939	12.2	17.0	76.0	2.0	6.6	5.7
1931	158	50.0	21.0	73.0	1.0	33.0	17.7

[1] Philadelphia and Baltimore.

Widening Market For Pennsylvania Flour

Considerable progress has been made toward the utilization of soft winter wheat flour by our local bakers, especially in the pretzel, cracker and pastry bakeries. Many of our larger bakeries give Pennsylvania soft winter wheat flour the preference over soft winter wheat flour from other states for the bakery products mentioned and the demand is increasing.

Public Markets

Despite trends to the contrary in many other states, the number of farmers' markets in Pennsylvania has continued to increase. During the two-year period, 1930-1932, the Bureau rendered assistance to four different groups in establishing new enclosed markets at Williamsport, Reading, Altoona and Allentown. This aid consisted of help in design of building, layout of stands, type of refrigeration, kind of lighting and heating, determination of stand rentals and plans of finance.

In addition to this work with new markets, four meetings were held with market managers from the entire State to discuss practical problems of operation and ways and means of modernizing many of the older market buildings. These meetings have resulted in improving sanitation, better merchandizing, and plant improvements at several of our markets. At present, 130 farmers' markets, of which 60 are under roof and the remainder are curb markets, are in operation in the Commonwealth.

Cooperation Makes Steady Growth

The cooperative marketing of farm products and the cooperative purchasing of farm supplies has continued to make steady growth among the farmers of this State during the past ten years. Despite a considerable decrease in the number of persons engaged in farming within this period, the number of farmers participating in cooperative effort has increased steadily. At the close of 1931, 52,384 farmers were members of the business cooperatives operating in Pennsylvania as compared with 49,163 in 1930; 48,436 in 1929; 44,258 in 1928; and 45,448 in 1927.

This growth in membership has resulted in a steady increase in the volume of commodities handled through cooperative associations and the tonnage distributed by these organizations in 1931 was the largest on record, although sharply falling prices throughout the year caused the dollar volume of cooperative business to fall to the lowest level since 1926. Approximately 670,000 tons of milk, 20,000 tons of fruits, 5,600 head of livestock and 191,000 tons of farm supplies, were sold through farmers cooperatives in 1931 as compared to 652,000 tons of milk, 15,000 tons of fruits, 2,300 head of livestock and 201,000 tons of farm supplies in 1930. In 1927, the first year for which any tonnage figures are available, 555,000 tons of milk and 130,000 tons of farm supplies were distributed through cooperatives doing business in this State. Table 12 shows the value of commodities sold through cooperatives annually since 1925 and with the exception of the years 1930 and 1931 when commodity prices were falling, indicates approximately the increase in volume.

Table 12. Value of Commodities Sold Through Farmers Cooperative Corporations

Commodity	1927	1928	1929	1930	1931
Milk and milk products	$38,758,415	$37,817,795	$42,137,670	$40,941,225	$32,620,900
Fruits and vegetables ..	1,139,599	2,670,372	3,277,551	3,279,515	2,541,462
Livestock	132,909	156,325	260,029	203,058	235,691
Wool	58,256	63,655	50,283	60,019	34,097
Eggs	98,000	10,000	....	....	85,000
Farm supplies.	7,576,929	8,155,838	8,802,142	9,497,427	7,255,905
Total	$47,764,108	$48,873,985	$54,527,675	$53,981,244	$42,773,055

These figures indicate that the cooperative form of business organization is proving of real value to Pennsylvania farmers and is performing for them services and effecting economies which farmers as individuals, can not perform. During the two-year period, 1930-1932, the Bureau of Markets assisted Pennsylvania associations or their board of directors in solving nearly two hundred problems affecting financing, management, organization and membership of cooperative associations. In addition, the Bureau issued General Bulletin No. 505, entitled "*Farmers Cooperative Corporations in Pennsylvania—How to Form and Finance Them.*"

Market Reviews Widely Used

Annual reviews of the Pennsylvania tobacco market, weekly reviews of the hay, grain, feed and flour markets, and periodical reviews of the peach, apple, potato, poultry and egg markets, have been issued during each of the past two years. These reviews were widely used by producers, shippers, dealers and others interested in such commodities and were published by most newspapers in the important production counties.

Complaints Against Dealers

Complaints against poultry dealers and commission merchants have been especially numerous during the past year. Each of these complaints was investigated by the Bureau and every effort made to obtain a fair settlement for the producer. In some cases, these efforts have resulted in payment in full to the producer, but in most cases, because of lack of statutory authority to force payment, the Bureau has been unable to obtain any settlement. Since the vast majority of complaints came from producers in other states, Pennsylvania Representatives in Congress have been urged to procure an amendment to the Perishable Agricultural Commodities Act to make its provisions applicable to commission merchants and dealers handling live and dressed poultry and eggs. Since the enactment of the Perishable Agricultural Commodities Act, the Bureau has received very few complaints against dealers or commission merchants handling fruits and vegetables.

BUREAU OF PLANT INDUSTRY

R. H. Bell, *Director*

The major projects of this Bureau as conducted during the period of this report are summarized in the following pages:

European Corn Borer

The European corn borer was first found in Pennsylvania in Girard Township, Erie County, in 1919. Since that time, it has spread south and east until in 1931 about three-fourths of the State was known to be infested.

Pennsylvania farmers located in the corn borer infested area have been successful in their battle with this insect. While extensive commercial damage has been done to the corn crop in several other states, no such damage has occurred here. Full cooperation among farmers in carrying out recognized control measures, which involve principally the complete destruction of all corn refuse, has been largely responsible for the success of the work in this State.

Table 13 compiled by the United States Department of Agriculture points out the results of the corn borer clean-up in Pennsylvania as checked against infestations in neighboring States.

Table 13. Results of Corn Borer Clean-up Work, 1927-1931

States	Counties	Borers per 100 Plants				
		1927	1928	1929	1930	1931
Michigan	14	24.90	15.95	18.61	14.11	21.17
Indiana	4	*	.46	.91	1.56	7.94
Ohio	25	6.85	10.76	20.63	8.52	28.02
Pennsylvania ...	3	14.15	2.64	4.92	2.94	1.09
New York	13	7.34	14.08	14.10	24.40	68.75
Total	59	13.31	8.78	11.83	10.31	25.39

* No survey.

From 1927 to 1931 Pennsylvania conducted enforced clean-up of corn refuse in the most heavily infested area of the State as a means of control and to demonstrate the effectiveness of clean farming as a practical control. As a result of this work, (See Table 13), entomologists are convinced that the elimination of serious corn borer damage in Pennsylvania is largely a matter of farm practice and well within the practical reach of farmers. From experience in the northwestern counties, it is evident that farmers in the central and southeastern counties will need to give more attention to cleaning up corn refuse than is their present practice if they hope to avoid serious loss when the corn borer reaches these counties.

Intensity surveys were carried on throughout the corn borer infested area in 1929, 1930 and 1931. In 1930 the survey showed a general reduction of borers all over the territory, a marked reduction in Erie and Crawford Counties, but an indication of increase in the Huntingdon-Centre-Clinton County district. In all, 1,562 farms comprising approximately 10,546 acres were scouted, no borers being found on farms scouted in Blair, Fayette, Greene, Northumberland, Susquehanna, Washington, Westmoreland and Wyoming Counties.

The 1931 survey included a total of 1,886 farms comprising approximately 11,940 acres of corn. No borers were found in Fayette, Greene, Northumberland or Wyoming Counties this year. In 1931 the Huntingdon-Centre-Clinton County District showed a marked increase in the number of borers, Centre and Huntingdon Counties having more borers per hundred stalks than Crawford or Mercer Counties. Probably the farm practices followed in certain townships of Huntingdon, Centre and Clinton Counties, together with the topography of the country, are at least partly responsible for this increase.

During both 1930 and 1931, patrols were maintained on the main highways leading out of the quarantine district through parts of the months of July, August, and September. This patrol was maintained in cooperation with and financed by the United States Department of Agriculture.

The Japanese Beetle

The Japanese beetle was first discovered in Pennsylvania in the vicinity of Philadelphia in 1920. Spread westward and northward has continued until now it occupies approximately the eastern one-third of the Commonwealth. Since 1920, a Federal-State quarantine has been maintained regulating the movement of certain farm produce, greenhouse and nursery stock, sand, soil, compost and manure. In 1930, the following outlying infestations were known, and in lieu of their inclusion in the quarantine were trapped with the hope of preventing the spread and local development of the beetle: Chambersburg, Laughlintown, Lewistown, Pittsburgh, Sayre, South Waverly and Williamsport. Only in Williamsport localities were sufficient beetles caught to warrant the inclusion of the territory in the quarantine district the following year.

Scouting in 1930 added Ligonier, Lock Haven, New Castle and Tipton to the list of outlying districts. In 1931, the following areas were trapped: Altoona, Chambersburg, Laughlintown, Lewistown, Ligonier, Lock Haven, New Castle, Pittsburgh, Sayre, South Waverly, Tipton and Tyrone. Such a large number of beetles was taken in Sayre, Lock Haven, Lewistown and Chambersburg, that these areas were included in the quarantine district for 1932. Attempts at control and eradication of the beetle by means of soil treatment with arsenate of lead has been practiced at Sayre, Athens and Erie. The treatment at Sayre and Athens was in 1930, and at Erie in the fall of 1931.

The introduction of natural enemies has been in the hands of the United States Department of Agriculture, this Department cooperating in releasing these parasites in suitable locations. Parasites are now thought to be well established in several localities in the vicinity of Philadelphia, and at least one species in the Harrisburg district. Other methods of control now in use include: (1) The use of pyrethrum sprays as contacts for killing adults, and the coated arsenate of lead as a poison; (2) the use of the beetle traps with a bait composed of bran saturated with a mixture of geraniol and eugenol, together with glycerin, water and molasses.

During the period covered by this report, farm produce and cut flowers could not move lawfully out of the quarantined territory between June 15 and October 15, unless properly certified, while the restrictions on the movement of greenhouse and nursery plants are in force the entire year. Road patrols were maintained on the principal highways leading out of this area through the summer months to enforce restrictions of the quarantine. In 1930, 13,417,155 plants were certified for movement from the quarantined area in Pennsylvania and in 1931, 12,825,000 plants were so certified. These went to practically all the States in the Union and about 20,000 each year went to foreign countries.

Oriental Fruit Moth

The Oriental fruit moth was first found in Pennsylvania in 1923 in the southern part of York County. Since then, it has spread to all parts of the State where peaches are grown.

So far, no satisfactory control has been developed for this pest. The Bureau's activity in the last two years has been confined primarily to the establishing of natural enemies. In cooperation with the United States Department of Agriculture, a larval parasite *(Macrocentrus ancylivora)* has been liberated in all of the important peach growing districts of the State, some counties having received several colonies. Attempts are being made to artificially propagate and liberate an egg parasite *(Trichogramma minutum)*. This work has been carried on at the field laboratory in Chambersburg with fair success in 1931. In survey work carried on with parasites, a native species *(Glypta rufiscutellaris)*, is an important factor in certain localities.

Insecticide Tests

In connection with insecticide trials made supplemental to the enforcement of the Insecticide Act, two "summer spray" oils were used to determine their effect upon the Oriental fruit moth. In 1930, there was an indication of some degree of control. The applications were repeated in 1931, but the control was so slight that the materials cannot be properly recommended for use in control of this pest.

A prepared soap was given trials in the Philadelphia district for the control of various insects. This material seems especially well adapted for juniper scale control in that it kills the scale and does not remove the "bloom" from the foliage.

During the spring of 1931, tests were made of several spray oils to determine their effectiveness in the control of the San Jose scale. Unsprayed trees bore 54 per cent living scales at the time the count was made compared to one to ten per cent for the sprayed trees. These sprays were applied in the dormant season and trees were well covered. The only mixture which showed any injury was tar oil winter wash, in which case the tips of the unfolding leaves appeared burned but this was not noticeable after a few days. Both in 1930 and 1931, foliage tests were made with coated arsenate of lead to check results of this material as recommended by certain manufacturers for the control of leaf-feeding insects, particularly the Japanese beetle. The coated arsenates tested regardless of the manufacturer who put them out, were harmless on apples, evergreens and grapes. There was considerable burning on all of the stone fruits.

Nursery Inspection

The inspection of nurseries in Pennsylvania by the Department was originally provided for in an Act of the General Assembly passed in 1901, upon urgent request of the leading horticulturists and nurserymen. This Act as subsequently amended and revised was supereeded by the Plant Pest Act of 1927 which provides for the inspection of all nursery stock being grown or sold within the Commonwealth as well as that imported from foreign countries. The purpose of this law is to prevent the introduction and spread of insects and diseases injurious to horticultural, forest and ornamental plants.

The service provides for actual inspection of all nursery stock in the field by trained men during the period between June 1 and October 1 each year, and as many times thereafter as found necessary by conditions observed at the time of the initial inspection.

This supervision of quarantined stock constitutes one if not the most important phase of the service. Many nurserymen prefer to eradicate all infestations by destroying the host plants at the time of inspection; a policy highly recommended by the service. Another closely allied phase is the investigation of the sources of nursery stock sold by dealers and non-resident nurserymen operating within the Commonwealth. This is accomplished by the inspection of premises of dealers and checking over the stock from non-resident nurserymen purchased by resident nurserymen for distribution in Pennsylvania.

Shipments of imported nursery stock consisting largely of fruit tree seedlings and rose under-stock are inspected upon arrival at the consignees destination. During 1931, a total of 163,734 imported plants were inspected to prevent the importation of pests not known to occur within the confines of this Commonwealth. Such precaution has proved valuable on numerous occasions when the inspectors have found living forms of such injurious insects as: gypsy moth, brown-tail moth, dagger moth, sorrel cutworm, white tree Pierid, European tussock moth and the snag-boring Emphytus on shipments from many foreign countries, largely of European origin.

Table 14. Inspection and Licensing of Nurseries, Dealers, and Agents, 1927-1931

	1927	1928	1929	1930	1931
Resident nurseries licensed	400	465	478	523	563
Acreage of Pennsylvania nurseries licensed	4,869	6.008	7.078	7,690	8.606
Resident dealers licensed	116	131	146	175	149
Non-resident nurserymen licensed	384	353	325	330	323
Non-resident dealers licensed	13	18	16	17	13
Number of inspections	932	1,008	1.745	1.937	1,946
Agents licensed	4,012	5,150	4,087	3,768	4,001
Special shipping certificates	37	64	86	78	84
Certificates refused	8	7	37	21	26
Violations checked	none	none	none	6	2
Number of imported plants	599.364	355.800	225.575	187.460	163,734

Potato Wart

The wart disease of potatoes has been recognized as a serious pest in Europe for many years. It is generally distributed over the British Isles and not uncommon on the continent. Introduction into this country undoubtedly occurred during the short crop year 1912.

Through England and Scotland at least, losses are reported to be largely overcome through the adoption of immune varieties. If the same could be done in Pennsylvania, the wart quarantine might be safely abandoned. This would involve replacement of our present Rural varieties which constitute over 90 per cent of our plantings, but are among the most susceptible of all our varieties.

The presence of the disease did not, however, become known in Pennsylvania until 1918, when a restrictive quarantine was placed on the area known and suspected of being infected. Since 1918 various small additional infected areas have been found so that at the present time wart is known to be present in eleven counties, i.e., Armstrong, Bedford, Cambria, Carbon, Clearfield, Centre, Fulton, Huntingdon, Lackawanna, Luzerne and Schuylkill with the most severe centers of infection in Luzerne, Carbon, and Cambria. In the eleven counties, 869 gardens in 67 towns and villages are known to harbor this disease.

The investigations on potato wart are now carried out in a cooperative way by this Bureau and the Federal Bureau of Plant Industry. The studies now under way involve:

(1) Longevity tests, to determine the length of life of the wart organism in the soil in the absence of susceptible hosts; (2) practical tests of this feature each year by planting susceptible potatoes in gardens originally infected but in which no potatoes have been grown for a known period; (3) the influence of tomatoes in keeping the wart organism renewed in the soil; (4) the reaction of immune potatoes to the disease; (5) testing of new seedlings for their reaction to wart; (6) the influence of soil temperature (constant and varied) on the development of the disease; (7) the influence of soil moisture on the development of the wart disease; (8) soil sterilization for the eradication of the wart disease; (9) the influence of chemicals used in

soil sterilization on the bacterial and protozoa content of the soil, and their influence on present and future plant life; (10) studies of soil temperatures obtaining in the following representative sections of Pennsylvania; i. e., Willow Grove, Harrisburg, Ebensburg and Hazleton.

A brief summary of results secured during 1930 and 1931 are:

(1) Longevity tests show active wart organisms in garden plots in which potatoes have not been planted for eleven years; (2) Tomatoes appear to be a factor in propagating wart, if soil conditions and vegetative development are favorable; (3) Wart immune factor in the accepted immune varieties of potatoes show absolute continuance, meaning that invisible wart tissues are not produced; (4) Soil temperature and moisture conditions are of decided importance in the development of the wart disease; (5) Soil sterilization has so far not proven practical as a control measure; (6) Soil temperatures in the vicinity of Willow Grove and Harrisburg which averaged above 70 degrees F. for June 15 to September 15, 1931, would have prevented wart development.

Investigations are being continued to verify results already secured.

Peach Yellows Inspection

The purpose of this work is to free peach orchards from the peach yellows disease. Very little is known regarding the actual cause and dissemination of this disease but it is an accepted fact that once a tree becomes affected there is no known cure. The only known method of control is through destruction of diseased trees. The function of the Bureau under the present plan adopted in 1921, is not to destroy infected trees but to mark or blaze them for the orchard owner to remove later.

In 1931 several of our important peach growing counties were not inspected. In 1932 these counties were included and the records closely studied with a view of placing the entire peach yellows inspection program on a biennial basis. Yellows has decreased from 4.45 per cent to less than one tenth of one per cent since the control work was started. It is hoped that the disease can be held at the present low percentage.

Table 15. Peach Yellows Inspection, 1927-1932

Year	Counties Inspected	Number Trees Inspected	Orchards Inspected	Trees Marked for Yellows	Per Cent Yellows
1927	13	802,033	447	1,846	.23
1928	19	922,540	533	1,317	.14
1929	25	1,030,165	661	1,570	.15
1930	19	900,252	536	703	.078
1931	18	755,440	382	752	.099
1932	12	407,454	334	535	.131

Bramble Plant Certification

New standards and inspection requirements for the certification of bramble plants (raspberries and blackberries) were drawn up in 1931 in cooperation with the Pennsylvania State College Extension Service. It is anticipated that under these new standards plants passing all inspections will be of the highest grade, of the better commercial varieties, true to name and free from diseases which result in reduced crop yields and a shortening of the life of the small fruit plantation. Of a total of eighty-one growers who applied for certification in 1931, thirty-one or 38.2 per cent were accepted at the final field inspection. The Plant Pest Act of 1927 makes it unlawful to sell or dispose of any bramble plants which do not pass inspection and certification requirements.

Seed Potato Certification

The Bureau is interested in making available to the potato growers of the State a source of home grown seed potatoes which, if given a fair chance, will give uniform and satisfactory results. Pennsylvania certified seed is producing excellent yields and is usually available in limited quantities at from twenty to seventy-five cents a bushel below the cost of seed brought in from outside sources.

A system that seems to be developing among Pennsylvania growers, is to plant fields to be entered for certification to seed secured from northern sources returning to the original source each year for their planting stock. Many growers have demonstrated to their own satisfaction that seed certified by the Pennsylvania Department of Agriculture under this plan will equal and frequently out-yield seed secured direct from the original source.

A number of growers in the mountain counties have been growing the same strain of seed stock for twenty-five years. These stocks are also equaling frequently out-yielding the best seed from the most reliable outside sources. The growers who produce certified seed under this plan are keeping their stocks comparatively free from disease through thorough and consistent roguing and through close adherence to the certification requirements.

Table 16. Summary of Seed Potato Certification, 1927-1931

	1927	1928	1929	1930	1931
Growers entered ..	72	111	84	63	67
Growers passed ..	39	34	49	37	44
Acres entered	203.5	583.75	433	359	480.5
Acres certified	119.6	206.5	281.5	221.5	288
Bushels per acre ..	249.7	292.9	247.8	207.7	316.3
Bushels certified ..	29,870	60,490	69,760	46,016	91,113

Tomato Seed Certification

Tomato seed certification was started in 1930 at the request of seed producers. Certification standards and requirements were drawn up by the Bureau in cooperation with representatives of the Pennsylvania State College Extension Service and commercial seed growers. Growers of certified tomato seed report that in addition to sales within the State much of their stock is being shipped to growers in Florida, Texas and other southern states.

Cedar Apple Rust

Under an amendment (1929) to the Plant Pest Act, the Department was authorized to compensate cedar owners for the loss of red cedar trees removed at the direction of the Department to protect apple orchards from cedar apple rust. This is an alternate host disease; alternate in that it passes a part of its life on the common red cedar and certain susceptible varieties of apples before it is able to complete its life cycle.

During 1930 and 1931, 60,242 red cedar trees were removed as a protection to ten different orchards containing 17,244 apple trees. The trees removed belonged to sixty-four farmers who were compensated to the extent of $1,426.66. Cedar trees removed under this plan remain the property of the owner. The cost of removing cedars during this two-year period averaged $.0852 per apple tree protected or $.0243 per cedar tree removed.

Apiary Inspection

More colonies of bees were inspected during 1930 and 1931 than during the entire period from the enactment of the present Bee Law (1921) up to 1930. Included in the number of colonies inspected this biennium, "follow-up" inspections were made of all diseased apiaries and apiaries containing illegal hives, owned by beekeepers who did not report having destroyed or treated their colonies after having first a two weeks' notice. In the initial and "follow-up" inspection, 99 beekeepers were prosecuted and approximately 2,700 badly diseased colonies were burned by the inspectors.

The general plan followed was to inspect a given territory, attempt to correct illegal or diseased bees on first inspection, and issue a two weeks' notice to beekeepers who wished to make the correction themselves. Before the close of the season all apiaries containing diseased colonies which were not reported as being treated were reinspected and the diseased colonies burned. The beekeeper owning illegal hives was given until the following spring to transfer to modern hives; if not transferred, the hives were destroyed. Most of the prosecutions were made in the "follow-up" inspection work.

Bulletin 499 *"Apiary Inspection in Pennsylvania"* was published February 1931, and was used in the inspection work during 1931.

Table 17 gives the progress of the apiary inspection work from 1927 to 1931 inclusive.

Table 17. Progress of Apiary Inspection Work, 1927-1931

	1927	1928	1929	1930	1931
Number apiaries inspected ...	2,128	2,249	4,412	7.187	7,397
Number hives in average apiary	7.3	9.5	8.5	6.7	6.4
Number colonies inspected ...	14,070	14,028	28,112	48.246	47.587
Per cent of colonies diseased ..	3.4	11.9	16	9.9	6.8
Per cent in unlawful hives ...	23.6	22.2	32	19.4	19.3
Colonies burned	......	......	......	537	2,163
Prosecutions	1	16	106	84	15
Applications for license for selling queens	12	13	12	8	6
Licensed queen apiaries	5	8	6	6	5

Botany and Seed Work

The purpose of the Pennsylvania Seed Law is to safeguard the seed supply and prevent the sale of seed of inferior quality. This is accomplished chiefly by collection of samples of the seeds sold by seedsmen. These samples, collected by our inspectors throughout the State, are sent to the Seed Laboratory of the Bureau for purity analysis and germination tests, and to determine whether or not the seeds are labeled in compliance with the Seed Law. If it is found that the seeds are not labeled at all or incorrectly labeled, the seedsman is notified at once and unless a satisfactory explanation is given, the penalties provided for in the law are imposed.

It is gratifying to report that both wholesale and retail seedsmen are cooperating freely in carrying out the provisions of the Seed Law. The result is that the farmer is receiving a better grade of seed than ever before. Of course, there are still some farmers who buy on price instead of quality, and there are still a few seedsmen who handle a poor grade of seeds.

During the biennium of 1930-1931, the Seed Laboratory has examined approximately 4,000 samples of seeds collected and received from more than 2,000 seed dealers in the State.

Table 18. Analysis of Seed Samples, 1927-1931

Type of Sample	1927	1928	1929	1930	1931
"A" samples, official samples collected from seedsmen	544	2,020	1,283	1 339	1,574
"B" samples, unofficial samples sent in by farmers and seed dealers	189	219	321	329	386
"C" samples, special analyses for State agencies	115	86	124	264	74
Total samples	848	2,327	1,728	1,932	2,034

Weed Control

In addition to safeguarding the farmer in the purchase of a good quality of seeds, attention is also given to the enormous loss caused by the growth of weeds. While the Seed Law aims to prevent the spread of weeds in farm seeds, it does not deal with weeds when they become established. There is a second law (Act No. 58 of 1923) which deals with Canada thistle and chicory. The Pennsylvania Department of Agriculture has no authority to enforce this law. Its enforcement is entirely in the hands of local officers. However, the Department has not been inactive in its attention toward the noxious weed situation. The botany division has been carrying on a rather intensive educational campaign against weeds. This work is done through the distribution of a weed bulletin, newspaper reports and lectures to schools and various farm organizations.

In order to carry on efficiently the seed and weed work, and to take care of the many inquiries about plants of all kinds, it is necessary that the Department shall have a working herbarium of seeds and plants. The plant herbarium consists of approximately 20,000 specimens mostly of Pennsylvania plants. The seed herbarium consists of approximately 1,500 samples of different kinds of seeds.

BUREAU OF STATISTICS AND INFORMATION

George F. Johnson, *Director*

The principal work of the Bureau of Statistics and Information is the gathering and compiling of reports on the acreage, condition, yield, monthly price, and annual value of crops, and on numbers, products, and value of livestock, and the dissemination of this and other available data to farm producers in order that each may keep informed concerning his business and that of his competitors.

Reliable crop reports keep the farmer informed of the condition and crop prospects throughout his own State and in other states where competing crops are grown. Such reports also enable the farmer to judge the probable relative supply of surplus crops he is producing, as well as competing crops, and to determine the advisability of making changes in his established cropping system.

Progress in Crop Reporting

Previous to 1912, the Pennsylvania Department of Agriculture has no detailed county statistics available on the agriculture of the State. These obviously met only a small fraction of the actual demand for information because, at the present time, more than 90 per cent of the inquiries deal with statistics for specific counties or districts of the Commonwealth.

From surveys and reports made by 10,000 field reporters, the Bureau issues not only annual summaries giving agricultural statistics on principal crops, on livestock and poultry, on the annual purchases of fertilizer and lime, and on modern equipment of various kinds on farms, but also issues monthly reports on crop conditions, prospective yields and on prices. Special timely reports are issued on intentions to plant, the agricultural outlook, the real estate situation, the hatchery business, maple products, stocks of grain on farms and elevators, the pig crop, the dairy situation and detailed information monthly on crops such as potatoes, fruits, grapes and tobacco. Both the local situation and the conditions in competing areas are made available.

State-Federal Cooperation

One reason the Bureau has been able to give more service in recent years with no material increase in its pre-war State budget, is the cooperative agreement with the United States Department of Agriculture made March 1, 1924, whereby the Federal office, previously maintained in Philadelphia, was merged with the Bureau of Statistics of this Department, the Federal Government paying certain salaries of the personnel taken over in line with the cooperative contract. This has made it possible to eliminate much duplication and effort between State and Federal Government and to expand various lines of work without additional cost to the State. One extremely important item in this connection is the franking privilege made available to the Federal State Crop Reporting office here, thus saving the State Government thousands of dollars in postage.

Statistical Material Widely Used

Surprising increases in the use of statistical material and in the requests coming from farmers, cooperative organizations and government, college, research and business agencies, for special and exhaustive compilations of available data and for new data, have occured in recent years. Many commercial organizations are apparently using the Bureau's county estimates of crops and livestock as a basis for reorganizing sales and service districts in order to serve more adequately and promptly their rural customers.

In addition to specific statistical information, the Bureau is handling hundreds of requests for general information. Due to a desire of unemployed industrial workers to take up farming or at least to raise a garden, inquiries for facts on the most elementary agricultural subjects are coming to the Bureau by the scores. The "back-to-the-land" movement has brought the Bureau a flood of additional inquiries. Special data on farm labor supply and demand has been collected monthly and transmitted to the Department of Labor and Industry for their unemployment survey. All the available statistics of farm abandonment have been requested at different times during the period covered by this report, by representatives of the Departent of Forests and Waters and by members of the General Assembly.

Useful Reports are Published

A bulletin entitled "*Agricultural Statistics,* 1930-1931," giving county statistics relating to the principal farm crops, fruit, livestock, livestock products, and much information incident to agriculture for both 1930 and 1931, was prepared in the Spring of 1932. As an economy measure, the two annual reports were merged into one for the biennial period.

The Bureau issues each year a publication entitled "*Directory of Information,*" which has proven a useful handbook for answering effectively, hundreds of inquiries. The bulletin contains a list of more than eight hundred useful farm bulletins indexed by subjects, a directory of State and County Agricultural Associations with officers, and a compilation of National Record Associations with name and address of secretary.

Table 19. Result of Efforts in Cutting Down Printing Cost for General Bulletins in Department of Agriculture

Year	Number of Printing Orders for General Bulletins	Number of Copies of Bulletins Printed	Average Size of Order	Number of Printed Pages
1922	6	107,000	17,833	14,800,000
1923	8	71,500	8,937	3,985,900
1924	17	120,500	7,088	5,468,840
1925	22	214,000	9,727	9,347,647
1926	16	106,000	6,625	7,234,475
1927	20	138,000	6,900	6,651,600
1928	15	72,500	4,833	3,727,700
1929	18	104,000	5,333	4,607,700
1930	12	67,000	5,500	4,510,000
1931	10	44,000	4,400	2,900,000
1932	7	29,000	4,100	1,098,800

Economy in Publications

This Bureau, being charged with editing all Departmental publications, has made a particular effort to effect economies in this service. A general mailing list, formerly used in the distribution of practically all general bulletins, has been abandoned in favor of specialized mailing lists, each carrying only a limited number of names of persons directly interested in the publication. In addition, a careful record is kept of all individual requests for bulletins. This makes possible the requisitioning of only the number of copies which can be used effectively before the subject matter becomes out of date.

Merging of Offices Saves Money

By merging the Publications Section of the Executive Office with the Bureau of Statistics under the name "Bureau of Statistics and Information," the Department has been able to reduce the expenditure of this work $3,100 annually and at the same time carry on and expand the work conducted under both divisions previous to the merger. The reorganization was approved by the Executive Board November 1, 1931, upon recommendation by the Secretary of Agriculture.

FINANCIAL STATEMENT

Table 20. Department of Agriculture—Expenditures June 1, 1930 to May 31, 1932

	June 1, 1930 to May 31, 1931	June 1, 1931 to May 31, 1932	June 1, 1930 to May 31, 1932
Salary of Secretary	$10,416.50	$9,999.84	$20,416.34
Executive Office:			
Salaries and general expenses	39,221.69	34,536.38	73,758.07
Bureau of Foods and Chemistry:			
Salaries and general expenses	189,642.32	170,390.89	360,033.21
Bureau of Plant Industry:			
Salaries and general expenses	110,855.43	114,315.10	225,170.53
Japanese Beetle Control:			
Salaries and general expenses	43,256.08	37,120.60	80,376.68
European Corn Borer Control	18,444.30	....	18,444.30
Bureau of Statistics and Information:			
Salaries and general expenses	10,210.71	11,209.40	21,420.11
Bureau of Markets:			
Salaries and general expenses	72,899.47	75,968.71	148 868.18
Bureau of Animal Industry Maintenance:			
Salaries and general expenses	542,610.46	475,395.81	1,018,006.27
Dog Law Enforcement:			
Salaries and general expenses	220,403.57	178,724.54	399,128.11
Encouraging Agricultural Exhibits	62,982.45	54,485.70	117,468.15
State Farm Products Show Commission	47,051.60	36,348.85	83,400.45
State Farm Products Show Fund Special Fund	41,665.40	52,795.32	94,460.72
Egg Laying Contest	....	58,006.92	58,006.92
Animal Indemnity	1,373,968.78	957,122.90	2,331,091.68
Plant Indemnity	1,323.66	1,311.28	2,634.94
Total	$2,784,952.42	$2,267,732.24	$5,052,684.66

FINANCIAL STATEMENT—Continued

Table 21. Department of Agriculture—Revenue Created During the Period June 1, 1930 to May 31, 1932

	June 1, 1930 to May 31, 1931	June 1, 1931 to May 31, 1932	June 1, 1930 to May 31, 1932
LICENSES AND FEES			
Oleomargarine Licenses	$474,977.41	$357,290.77	$832,268.18
Feeding Stuffs Licenses & Analysis Fees	81,161.00	80,071.00	161,232.00
Carbonated Beverage Licenses	44,350.00	43,450.00	87 800.00
Fertilizer Licenses	25,535.00	23,320.00	48,855.00
Milk Dealers Permits	5,975.00	5,745.00	11,720.00
Milk Testers Licenses & Certificate Fees	4,083.00	3,873.10	7,956.10
Milk Weighers Licenses & Certificate Fees	1,893.00	1,866.00	3,759.00
Cold Storage Warehouse Licenses ..	3,500.00	3,350.00	6,850.00
Insecticide Licenses	1,916.00	2,059.00	3 975.00
Lime Licenses and Analysis Fees ..	1,335.00	1,276.00	2,611.00
Egg Opening Licenses	1,100.00	1,000.00	2,100 00
Linseed Oil Analysis Fees	1.00	....	1.00
Farm Products Inspection Fees			
A—Fruit & Vegetable Inspection	17,946.97	19,444.33	37,391.30
B—Poultry Inspection	6,828.05	6,642.88	13,470.93
Seed Testing and Certification Fees	79.00	78.25	157.25
Egg Laying Contest Fees	....	1,840.00	1,840.00
STATE FARM PRODUCTS SHOW FUND			
Exhibit Fees—Competitive	3,342.75	3,781.00	7,123.75
Exhibit Fees—Commercial	43,377.07	41,852.93	85,230.00
Exhibit Fees—State Agencies ..	4,602.50	5,387.50	9,990.00
MISCELLANEOUS REVENUE			
Sale of Surplus Products	1,268.82	2,705.72	3,974.54
Recovered Damages—Dog Law ...	1,398.18	1,213.34	2,611.52
Reimbursement—Plant Pest Law ..	297.28	67.68	364.96
Reimbursement—Plant Pest Law (Work done by Federal)	4.68	....	4.68
STATE FARM PRODUCTS SHOW FUND			
Concession Revenue	2,194.08	1,677.53	3,871.61
Service Charges	2,909.60	3,077.65	5,987.25
Rentals	....	8,376.87	8,376.87
Sale of Exhibits—Net Proceeds	224.12	156.04	380.16
Sale of Exhibits—Commissions	394.91	388.53	783.44
Interest on Deposits	232.01	340.27	572.28
Sale of Unserviceable Property	41.80	....	41.80
Sale of Publications	347.43	150.90	498.33
Miscellaneous	291.33	803.00	1,094.33
Transfer of Abolished Fund	192.02	....	192.02
FINES			
General Food Fines	11,350.00	9,670.00	21,020.00
Feeding Stuffs Fines	3,000.00	3,325 00	6,325.00
Carbonated Beverage Fines	2,600.00	1,960.00	4,560.00
Sausage Fines	5,000.00	2,500.00	7,500.00
Milk Fines	1,650.00	800.00	2,450.00
Milk Container Fines	825.00	300.00	1,125.00

FINANCIAL STATEMENT—Concluded

Table 21. Department of Agriculture—Revenue Created During the Period, June 1, 1930 to May 31, 1932

	June 1, 1930 to May 31, 1931	June 1, 1931 to May 31, 1932	June 1, 1930 to May 31, 1932
Milk Testing Fines	1,272.00	540.00	1,812.00
Egg Fines	900.00	800.00	1,700.00
Fertilizer Fines	825.00	350.00	1,175.00
Butter Fines	2,200.00	5,800.00	8,000.00
Meat Fines	1,600.00	500.00	2,100.00
Meat Hygiene Fines	818.20	931.80	1,750.00
Oleomargarine Fines	350.00	....	350.00
Vinegar Fines	150.00	1,000.00	1,150.00
Cold Storage Fines	160.00	320.00	480.00
Plant Pet Act Fines—Include: European Corn Borer—Japanese Bettle and Nursery Inspection Fines	100.00	95.00	195.00
MISCELLANEOUS FINES			
Oyster Fines	75.00	....	75.00
Potato Fines	....	160.00	160.00
Fruit Syrup Fines	50.00	....	50.00
Seed Fines	45.00	60.00	105.00
Ice Cream Fines	550.00	150.00	700.00
Linseed Oil Fines	....	100.00	100.00
Apiary Fines	960.00	155.00	1,115.00
Lime Fines	....	85.00	85.00
Insecticide Fines	....	50.00	50.00
Adulteration of Milk Fines	50.00	....	50.00
Grape Fines	....	50.00	50.00
Lard Fines	....	50.00	50.00
REFUNDS OF EXPENDITURES			
State Farm Products Show Fund	11.52	676.75	688.27
General Fund	1,810.75	3,847.57	5,658.32
Refunds of Expenditures not Credited to Appropriations	....	283.21	283.21
Total	$768,151.48	$655,844.62	$1,423,996.10*

* Exclusive of Dog Law Enforcement Revenue which amounted to $657,612.65 in 1930 and $644,214.50 in 1931.

[illegible]